



46

claragen170.ST25.txt
SEQUENCE LISTING

<110> Claragen, Inc.

<120> Method for the Production of Purified rhUG for the Treatment of
Inflammatory and Fibrotic Conditions

<130> 116142/00170

<140> 09/898,616

<141> 2001-07-02

<150> 08/864,357

<151> 1997-05-28

<160> 11

<170> PatentIn version 3.0

ay

<210> 1

<211> 65

<212> DNA

<213> synthetic

<400> 1

gatccatgga aatctgcccg tctttccagc gtgttatcga aaccctgctg atggacaccc
60

cgtcc

65

<210> 2

<211> 60

<212> DNA

<213> synthetic

<400> 2

agctacgaag cagctatgga actgttctct ccggaccagg acatgcgtga agcaggtgct
60

<210> 3

<211> 59

<212> DNA

<213> synthetic

claragen170.ST25.txt

<400> 3
cagctgaaga aactggttga caccctgccg cagaaaccgc gtgaatccat cataaactg
59

<210> 4
<211> 37
<212> DNA
<213> synthetic

<400> 4
atggagaaga tcgctcagtc tagcctgtgc aactaag
37

Q4
<210> 5
<211> 60
<212> DNA
<213> synthetic

<400> 5
cttagttgca caggctagac tgagcgatct tctccatcag tttgatgatg gattcacgcg
60

<210> 6
<211> 59
<212> DNA
<213> synthetic

<400> 6
gtttctgcgg caggggtgtca accagtttct tcagctgagc actgcttcac gcatgtcct
59

<210> 7
<211> 60
<212> DNA
<213> synthetic

<400> 7
ggtccggaga gaacagttcc atagctgctt cgtagctgga cgggggtgtcc atcagcaggg
60

<210> 8
<211> 60
<212> DNA

claragen170.ST25.txt

<213> synthetic

<400> 8

ggtccggaga gaacagttcc atagctgctt cgtagctgga cgggggtgtcc atcagcaggg
60

<210> 9

<211> 7615

<212> DNA

<213> bacterial strain CG12

<400> 9

tatgcggtgt gaaataccgc acagatgcgt aaggagaaaa taccgcatca ggcgctcttc
60

cgcttcctcg ctcaactgact cgctgcgctc ggctcggttcgg ctgcggcgag cggatatcagc 1
20

tcactcaaag gcggtaatc gggttatccac agaatacagg gataacgcag gaaagaacat 1
80

gtgagcaaaa ggccagcaaa aggccaggaa ccgtaaaaag gccgcggttgc tggcggttttt 2
40

ccataggctc cgccccctg acgagcatca caaaaatcga cgctcaagtc agaggtggcg 3
00

aaacccgaca ggactataaa gataaccaggc gtttccccct ggaagctccc tcgtgcgctc 3
60

tcctgttccg accctgccgc ttaccggata cctgtccgcc tttctccctt cgggaagcgt 4
20

ggcgctttct catagctcac gctgtaggta tctcagttcg gtgtaggtcg ttcgctccaa 4
80

gctgggctgt gtgcacgaac cccccgttca gcccgaccgc tgcgccttat ccggtaacta 5
40

tcgtcttgag tccaacccgg taagacacga cttatcgcca ctggcagcag ccactggtaa 6
00

caggattagc agagcgaggt atgtaggcgg tgctacagag ttcttgaagt ggtggcctaa 6
60

ctacggctac actagaagga cagtatttgg tatctgcgct ctgctgaagc cagttacctt 7
20

claragen170.ST25.txt

cggaaaaaga gttggttagct cttgatccgg caaacaacc accgctggta gcggtgggtt 7
80

ttttgtttgc aagcagcaga ttacgcgcag aaaaaaagga tctcaagaag atcctttgat 8
40

cttttctacg gggctctgacg ctcagtggaa cgaaaactca cgttaaggga ttttgggtcat 9
00

gagattatca aaaaggatct tcacctagat ccttttaaataaaaaatgaa gttttaaatc 9
60

aatctaaagt atatatgagt aaacttggtc tgacagttac caatgcttaa tcagtgaggc 10
20

acctatctca gcgatctgtc tatttcgttc atccatagtt gcctgactcc ccgtcgtgta 10
80

gataactacg atacgggagg gcttaccatc tggccccagt gctgcaatga taccgcgaga 11
40

cccacgctca ccggctccag atttatcagc aataaaccag ccagccggaa gggccgagcg 12
00

cagaagtggc cctgcaactt tatccgcctc catccagtct attaattggt gccgggaagc 12
60

tagagtaagt agttcgccag ttaatagttt gcgcaacggt gttgccattg ctacaggcat 13
20

cgtaggtgtca cgctcgtcgt ttggtatggc ttcattcagc tccggttccc aacgatcaag 13
80

gcgagttaca tgatccccca tgttgtgcaa aaaagcgggt agtccttcg gtcctccgat 14
40

cgttgtcaga agtaagtgg ccgcagtgtt atcactcatg gttatggcag cactgcataa 15
00

ttctcttact gtcatgccat ccgtaagatg cttttctgtg actggtgagt actcaaccaa 15
60

gtcattctga gaatagtgtg tgccggcgacc gagttgctct tgcccggcgt caacacggga 16
20

taataccgcg ccacatagca gaactttaaa agtgctcatc attggaaaac gttcttcggg 16
80

claragen170.ST25.txt

gcgaaaactc tcaaggatct taccgctggt gagatccagt tcgatgtaac ccactcgtgc 17
40

acccaactga tcttcagcat cttttacttt caccagcggt tctgggtgag caaaaacagg 18
00

aaggcaaaat gccgcaaaaa agggaataag ggcgacacgg aaatgttgaa tactcatact 18
60

cttccttttt caatattatt gaagcattta tcagggttat tgtctcatga gcggatacat 19
20

atttgaatgt atttagaaaa ataaacaaaa gagtttgtag aaacgcaaaa aggccatccg 19
80

tcaggatggc cttctgctta atttgatgcc tggcagttta tggcggggcg cctgcccggc 20
40

accctccggg ccgttgcttc gcaacgttca aatccgctcc cggcggattt gtcctactca 21
00

ggagagcggt caccgacaaa caacagataa aacgaaaggc ccagtctttc gactgagcct 21
60

ttcgttttat ttgatgcctg gcagttccct actctcgcat ggggagaccc cacactacca 22
20

tcggcgctac ggcgttttcac ttctgagttc ggcattggggc caggtgggac caccgcgcta 22
80

ctgccgccag gcaaattctg ttttatcaga ccgcttctgc gttctgattt aatctgtatc 23
40

aggctgaaaa tcttctctca tccgccaaaa cagccaagct tcacctgcag acagaattct 24
00

gtctgcaggt gaagcttcac ctgcagacag aattccggaa gagagcaagg ctggtgggcg 24
60

tggactcaaa gcatggcagc ggcagaggct ggagcagttg gggatcttca gcttctaaat 25
20

gctaattaca cagtgcgctt tgggctattt tttccatgag cttaatgatg ctttctctgg 25
80

gcttttgggg gaggggtgtcc accagcttct tcagctgagc ccctgcctcc ctcatgtctt 26
40

claragen170.ST25.txt

gatcagggct gaaaagttcc atggcagcct cataactgga ggggtgtgtcc atgaggaggg 27
00

tttcgatgac acgctgaaag ctggggcaga tctctgcagc catggtgtat atctccttct 27
60

taaagttaac aaaattatct ctagagggaa accgttgtgg tctccctata gtgagtcgta 28
20

ttaatttgga tcctctagag tcgacctgca ggcattgccag cttctgggtc gtcggctggg 28
80

tgatggcgtc ggttttggcc ggcggcgctc gcgcgatcgc cagcgcgaag caactggcgt 29
40

tcctcggcga acatagcggc atggtggcct tcggcttctt ccgcgaccag gtgaaggaca 30
00

tgcaactgca tgcggacgtg atcctggccc ggtgggatga aaaggcgaac tcgccggtgg 30
60

tctaccgctg cccgaaggcg tacctgctca acaggttcgc atccgcgccc ttcgtgcctt 31
20

ggccgggacta caccgagggg gaaagcgagg atctaggtag ggcgctcgca gcggccctgc 31
80

gggacgcgaa aaggtgagaa aagccgggca ctgcccggct ttatTTTTTgc tgctgcgcgt 32
40

tccaggccgc ccacactcgt ttgacctggc tcgggctgca tccgaccagc ttggccgtct 33
00

tggcaatgct cgatccgccg gagcgaagcg tgatgatgcg gtcgtgcatg ccggcgtcac 33
60

gtttgcggcc ggtgtagcgg ccggcggcct tcgccaactg gacaccctga cgttgacgct 34
20

cgcgccgac ctcgtagtcg tcgcgggcca tctgcaaggc gagcttcaaa agcatgtcct 34
80

ggacggattc cagaacgatt ttcgccactc cgttcgctc ggcggccagc tccgacaggt 35
40

ccaccacgcc aggcacggcc agcttggccc ctttggcccg gatcgacgca accaggcgct 36
00

claragen170.ST25.txt

cggcctcggc caacggcaag cggctgatgc ggtcgatctt ctccgcaacg acgacttcac 36
60

caggttgacg gtccgcgac atgcgcagca gctcggggccg gtcggcgcggt gcgccggacg 37
20

ccttctcgcg gtagatgccg gcgacgtagt acccggcggc ccgcgtggcc gctacaaggc 37
80

tctcctggcg ttcaagattc tgctcgctcg tactggcgcg caggtagatg cgggcgacct 38
40

tcaaccttcg tccctccggt tgttgctctc gcgtcgccat ttccacggct cgacggcggtg 39
00

cggatcggac cagaggccga cgcgcttgcc tcgcgcctcc tgttcgagcc gcagcatttc 39
60

agggtcggcc gcgcggccgt ggaagcgata ggcccacgcc atgccctggt gaaccatcgc 40
20

ggcgttgacg ttgcgcggct gcggcggccg gctggccagc tccatgttga cccacacgggt 40
80

gccagcgtg cggccgtaac ggtcgggtgtc cttctcgtcg accaggacgt gccggcggaa 41
40

caccatgccg gccagcgcct ggcgcgcacg ttgcgcgaag gcttgccgct tttccggcgc 42
00

gtcaatgtcc accaggcgca cgcgcaccgg ctgcttgtct accagcacgt cgatggtgtc 42
60

gccgtcgatg atgcgcacga cctcgccgcg cagctcggcc catgccggcg aggcaacgac 43
20

caggacggcc agcgcggcag cggcgcgacg catggcgtag cttcggcgct tcatgcgtgg 43
80

ccccattgct gatgatcggg gtacgccagg tgcagcactg catcgaaatt ggccttgacg 44
40

tagccgtcca gcgccacccg cgagccgaac gccggcgaaa ggtactcgac caggccgggc 45
00

cggtcgcgga cctcgcgccc caggacgtgg atgcgccggc cgcgtgtgcc gtcgggtcca 45
60

claragen170.ST25.txt

ggcacgaagg ccagcgcctc gatgttgaag tcgatggata gaagttgtcg gtagtgcttg 46
20

gccgccctca tcgcgtcccc cttgggtcaaa ttgggtatac ccatttgggc ctagtctagc 46
80

cggcatggcg cattacagca atacgcaatt taaatgcgcc tagcgcattt tcccgaacct 47
40

aatgcgcctc gcgctgtagc ctcacgcccc catatgtgct aatgtgggta cgtgtatttt 48
00

atggagggta tccaatgagc cgcctgacaa tcgacatgac ggaccagcag caccagagcc 48
60

tgaaagccct ggccgccttg cagggcaaga ccattaagca atacgccctc gaacgtctgt 49
20

tccccggtga cgctgatgcc gatcaggcat ggcaggaact gaaaaccatg ctggggaacc 49
80

gcatcaacga tgggcttgcc ggcaagggtg ccaccaagag cgtcggcgaa attcttgatg 50
40

aagaactcag cggggatcgc gcttgacggc ctacatcctc acggctgagg ccgaagccga 51
00

tctacgcggc atcatccgct acacgcgccg ggagtggggc gcggcgcagg tgcgcgccta 51
60

tatcgctaag ctggaacagg gcatagccag gcttgccgcc ggccaaggcc cgtttaagga 52
20

catgagcgaa ctctttcccg cgctgcggat ggcccgtgc gaacaccact acgttttttg 52
80

cctgccgcgt gcgggcgaac ccgcgttggt cgtggcgatc ctgcatgagc gcatggacct 53
40

catgacgcga cttgccgaca ggctcaaggg ctgatttcag ccgctaaaaa tcgcgccact 54
00

cacaacgtcc tgatggcgta cttaccctaaa gaacagctag gagaatcatt tatgctcagc 54
60

acacttccac aagctcatgc aactttcttg aaccgcatcc gcgatgcggg cgcttccgat 55
20

claragen170.ST25.txt

gttcgcttcc gcgctcttct gatcggcggc tcttacgttc acggaggact cgatgagcac 55
80

tccgatttgg atttcgacat cgttggtgag gacaactgct acgcagatgt cttgtctaca 56
40

cgcaaggatt ttgccgaggc actgcccggc ttctcaacg cgataagctg gctggatcct 57
00

ctacgccgga cgcacgtgg ccggcatcac cggcgccaca ggtgcggttg ctggcgcta 57
60

tatcgccgac atcaccgatg gggaagatcg ggctcgccac ttcgggctca tgagcgcttg 58
20

tttcggcgtg ggtatggtgg caggccccgt ggccggggga ctggtgggag ccatctcctt 58
80

Q4 gcatgcacca ttcttgcg cggcggtgct caacggcctc aacctactac tgggctgctt 59
40

cctaattgcag gagtcgcata agggagagcg tcgaccgatg cccttgagag ccttcaacct 60
00

agtcagctcc ttccggtggg cgcggggcat gactatcgtc gccgcactta tgactgtctt 60
60

ctttatcatg caactcgtag gacaggtgcc ggcagcgctc tgggtcattt tcggcgagga 61
20

ccgctttcgc tggagcgga cgatgatcgg cctgtcgctt gcggtattcg gaatcttgca 61
80

cgccctcgct caagccttcg tcaactggtcc cgccacaaa cgtttcggcg agaagcaggc 62
40

cattatcgcc ggcattggcg ccgacgcgt gggctacgtc ttgctggcgt tcgcgacgcg 63
00

aggctggatg gccttcccca ttatgattct tctcgcttcc ggcggcatcg ggatgccgc 63
60

gttgcaggcc atgctgtcca ggcaggtaga tgacgaccat caggacagc ttcaaggatc 64
20

gctcgcggt cttaccagcc taacttcgat cattggaccg ctgatcgta cggcgattta 64
80

claragen170.ST25.txt

tgccgcctcg gcgagcacat ggaacggggtt ggcattggatt gtaggcgccg ccctatacct 65
40

tgtctgcctc cccgcgttgc gtcgcggtgc atggagccgg gccacctcga cctgaatgga 66
00

agccggcggc acctcgctaa cggattcacc actccaagaa ttggagccaa tcaattcttg 66
60

cggagaactg tgaatgcgca aaccaaccct tggcagaaca tatccatcgc gtccgccatc 67
20

tccagcagcc gcacgcggcg catctcgggc agcgttgggt cctggccacg ggtgcgcatg 67
80

atcgtgctcc tgctggtgag gaccgcgcta ggctggcggg gttgccttac tggttagcag 68
40

aatgaatcac cgatacgca gcgaacgtga agcgactgct gctgcaaaac gtctgcgacc 69
00

tgagcaacaa catgaatggg cttcggtttc cgtgtttcgt aaagtctgga aacgcggaag 69
60

tcagcgcctt gcaccattat gttccggatc tgcacgcag gatgctgctg gctaccctgt 70
20

ggaacaccta catctgtatt aacgaagcgc tggcattgac cctgagtgat ttttctctgg 70
80

tcccgccgca tccataccgc cagttgttta ccctcacaac gttccagtaa ccgggcatgt 71
40

tcacatcag taacccttat cgtgagcatc ctctctcgtt tcacgggtat cattaccccc 72
00

atgaacagaa atccccctta cacggaggca tcagtgacca aacaggaaaa aaccgcctt 72
60

aacatggccc gctttatcag aagccagaca ttaacgcttc tggagaaact caacgagctg 73
20

gacgcggatg aacaggcaga catctgtgaa tcgcttcacg accacgctga tgagctttac 73
80

cgagctgcc tcgcgcgttt cggatgatgac ggtgaaaacc tctgacacat gcagctcccc 74
40

claragen170.ST25.txt

gagacgggtca cagcttgtct gtaagcggat gccgggagca gacaagccccg tcagggcgcg 75
00

tcagcgggtg ttggcgggtg tcggggcgca gccatgaccc agtcacgtag cgatagcgga 75
60

gtgtatactg gcttaactat gcggcatcag agcagattgt actgagagtg cacca 76
15

<210> 10
<211> 4
<212> PRT
<213> CG12

<400> 10

Ala Ala Glu Ile

1

<210> 11
<211> 73
<212> PRT
<213> rhUG

<400> 11

Met Ala Ala Glu Ile Cys Pro Ser Phe Gln Arg Val Ile Glu Thr Leu
1 5 10 15

Leu Met Asp Thr Pro Ser Ser Tyr Glu Ala Ala Met Glu Leu Phe Ser
20 25 30

Pro Asp Gln Asp Met Arg Glu Ala Gly Ala Gln Leu Lys Lys Leu Val
35 40 45

Asp Thr Leu Pro Gln Lys Pro Arg Glu Ser Ile Ile Lys Leu Met Glu
50 55 60

Lys Ile Ala Gln Ser Ser Leu Cys Asn
65 70